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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,521	06/26/2003	Michele J. Alberg	ATMI-631	5747
25559	7590	08/09/2005	EXAMINER	
ATMI, INC. 7 COMMERCE DRIVE DANBURY, CT 06810			HU, HENRY S	
			ART UNIT	PAPER NUMBER

1713

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,521

Applicant(s)

ALBERG, MICHELE J.

Examiner

Henry S. Hu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE of June 9, 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to RCE request filed on June 9, 2005 and the request for reconsideration after Final filed on March 16, 2005. **No claim was amended or added.**

Claims 1-20 are pending now, while Claims 19 and 20 are still withdrawn from consideration as being directed to a non-elected invention. An Action follows.

Response to Argument

2. Applicant's argument filed on the request for reconsideration after Final of March 16, 2005 has been fully considered but they are not persuasive. The focal arguments related to the patentability will be addressed as follows: In view of the Applicants' argument on pages **6-25** of Remarks, new rejection over Derbyshire is applied after further search, while 103(a) rejection over Bergman et al. for Claims 1-18 is sustained.

As discussed earlier, **both Claim 19 and Claim 20 are in independent form** and are related to different **process** with specific steps and conditions on reducing count on PTFE material or its film. In comparison with amended set of process Claims 1-18, both are patentably distinct from the invention originally claimed. In view of the statement on **top of page 7** and **top of page 9** in Remarks as "claim 20 could in fact be rewritten in dependent form under claim 1,", the Applicants are reminded that **Claim 20 needs to be changed to**

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dependent from parent Claim 1 or to replace parent Claim 1 in order to be not withdrawn under a restriction requirement.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. *The limitation of parent **Claim 1** in the present invention relates to a method comprising: (A) heating a polytetrafluoroethylene material to an elevated temperature; and (B) maintaining said heating for a time sufficient to substantially **reduce a particle count character of the polytetrafluoroethylene material**. Parent **Claim 10** relates to the same method of Claim 1 but with a specific heating temperature, while parent **Claim 12** relates to the product produced from Claim 1. See other limitations of dependent **Claims 2-9, 11 and 13-18**.*
6. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Bergman et al. (US 5,377,708) for the reasons set forth in **paragraphs 6-9 of Final office action dated 8-11-2004 as well as the discussion below**.

Applicants: In each of parent Claims 1, 10 and 12, the Applicant has claimed an unexpected way of obtaining a heat treatment method to solve the particle shedding problem, it comprises: (A) heating a polytetrafluoroethylene material to an elevated temperature; and (B) maintaining said heating for a time sufficient to substantially reduce a particle count character of the polytetrafluoroethylene material. With respect to 102 rejections over Bergman et al. for Claims 1-18, the Applicants allege that Bergman reference does not disclose such a heat treatment to “reduce particle count up to “fifteen to almost sixty times” those of untreated PTFE” (see pages 11-12 of Remarks). The Applicants further allege that the above-mentioned

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heating method is particularly applied to PTFE film material since the liners have the containment and dispensing of liquids stored in.

7. Examiner: The key point is that Claims 1, 10 and 12 are applied to “polytetrafluoroethylene material”. As well known in the art, the scope of “polytetrafluoroethylene material” is much wider than “polytetrafluoroethylene”. Even the reference Bergman is only disclosing a method for improved process of semiconductor wafers and the like by using heat to remove or volatilize the by-products from the wafer so that a low particle count performance is obtained, Bergman anticipates the limitations of Claims 1, 10 and 12 since “polytetrafluoroethylene material” is applied. Attention is directed to TEFLON or other suitable fluoropolymer being included in the heating system as the inner bowl piece, bottom wall liner, plug and bellows (column 16, line 14-18; column 17, line 21-22). Additionally, parent Claims 1, 10 and 12 only address the general terms on temperature, time and particle count, nothing is specific at all. Therefore, Bergman anticipates the limitations of parent Claims 1, 10 and 12.

In a very close examination on the open language of “a polytetrafluoroethylene material”, it may mean using “a polytetrafluoroethylene-containing material” and therefore it may include anything as long as any PTFE homo- and/or co-polymer is incorporated as one of the component in the material or device. The Applicants allege some excellent results as such a heat treatment can “reduce particle count up to “fifteen to almost sixty times” those of untreated PTFE” can be found in specification. However, it is not included as limitation of

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Claims 1, 10 and 12 at all. It is noted that the examiner cannot and would not read specification into the claim according to MPEP. It is also noted that excellent result is not necessarily to be an unexpected result due to inherent nature. **Unexpected results “cannot” form a basis for rebutting an anticipation rejection under 35 USC “102”** according to MPEP. In re Malgari, 499 F.2d 1297, 1302, 182 USPQ 549.

8. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Derbyshire (US 4,220,511).

Regarding the limitation of parent **Claims 1, 10 and 12**, Derbyshire has disclosed a method for producing a grindable material by **treating polytetrafluoroethylene with irradiation, heat and time at temperature** being approximately 50-150 Mrads, 150-600 °F for at least about One-half hour (abstract, line 1-9; column 2, line 12-31). It is noted that the open language “**comprising**” is used on parent Claims 1, 10 and 12. By doing so, sintered PTFE is nondestructively degraded so as to be grindable to fine powders having low average particle size and high melt flow characteristics (abstract, line 1-3; column 1, line 8-12).

Derbyshire is silent of the reduction on particle count of polytetrafluoroethylenes. In light of the fact that the prior art and the present invention recite **the same or substantially identical composition in homo- and/or co-polymers from monomer of tetrafluoroethylene and may be polymerized in the same process** (column 1, line 25-29 and also see working examples), a reasonable basis exists to believe that the products of the invention inherently

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possess the same properties on particle count. Since the PTO cannot perform experiments, the burden is shifted to the applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP 2112-2112.02.

9. Regarding **Claims 2, 4 and 8-9**, Derbyshire discloses that heating by radiation does not rule out either local heating on some portion or using a heating-cooling-heating cycle according to the discussion above.

Regarding **Claims 3 and 5-6**, Derbyshire discloses that the heating temperature is in the range of 150-600 °F, which is equivalent to 65-315 °C after conversion (abstract, line 9). It is noted that **TEFLON or polytetrafluoroethylene has a melting point at 621 °F or 327 °C** (see Aldrich chemical catalog).

Regarding **Claim 7**, heating time may be up to two hours (column 3, line 22). Derbyshire also discloses that length of heating time is found to be depending upon desired average particle size and melt flow value (column 3, line 11-25).

In view of the fact that parent **Claim 10** relates to the same method of Claim 1 but with a specific heating temperature, while parent **Claim 12** relates to the product produced from Claim 1, parent **Claims 10 and 12** are thereby rejected with the above rejection for Claims 1-9.

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Regarding dependent **Claims 16-18**, TEFLON or polytetrafluoroethylene in the form of **a film** will also carry the same particle count properties due to inherent nature, and it can be on the substrate and is able to absorb moisture or the like in view of the nature of a film.

The remaining dependent **Claims 11 and 13-15** are thereby rejected with the same reason applied for the above rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a method to substantially reduce a particle count character of a polytetrafluoroethylene material by heating:

US Patent No. 3,975,481 to Baumgaertner only discloses a method for molding ultra-high molecular weight linear polyethylene molding powder. It comprises a step of compressing and heating at a temperature below its crystalline point under pressure of at least 2,000 p.s.i. (abstract, line 1-10; column 6, line 1-64). **Although heating is applied on PE, which may be applied to other types of thermoplastic polymers including PTFE, its particle count and the reduction of the count are not disclosed.** Therefore, the claimed method for lowering particle count is not disclosed.

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11. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Dr. Henry S. Hu whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306 for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Henry S. Hu

Patent Examiner, art unit 1713, USPTO

August 1, 2005


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